UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,515	04/20/2001	Fred C. Thomas III	067470.0137	2911

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EXAMINER
UNGAR, DANIEL M

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/839,515	THOMAS III, FRED C.
	Examiner	**Art Unit**	
	Daniel M. Ungar	2132	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however; may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-56* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

      application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *7/13/01-6/14/04*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED OFFICE ACTION

1.   Claims 1-56 have been examined.

CLAIM REJECTIONS - 35 U.S.C. 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-28 and 32-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims not treated in the following rejections are rejected due to their dependency on rejected claims.

4.   Claim 1 recites the limitation, "having a unique identifier associated therewith." It is unclear whether the unique identifier is associated with the cartridge, or with the information storage media.

5.   In claims 4 and 32, it is unclear whether the recitation "the information stored therein" refers to the antecedent "public key information", or to the private key, public key information, and unique identifier.

6.   Claim 18 recites a further private key stored in the cartridge. This appears to contradict claim 14, upon which it depends, which states that the cartridge is free of a private key. It is unclear how a cartridge can both not have a private key and have a private key.

CLAIM REJECTIONS - 35 U.S.C. 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.   Claims 1-4, 6-9, 14-17, 29-32, 34-37, and 42-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Sims III, U.S. Patent Number 6,438,235.

9.   Regarding claims 1 and 29, Sims III discloses an apparatus and method comprising a cartridge having an information storage media therein (see column 6, lines 45-60) and having a unique identifier associated therewith (see column 4, lines 14-17; column 14, lines 30-34); a receiving section into which the cartridge can be removably inserted (see column 6, lines 45-60).
a further section operatively coupled to the receiving section (see column 7, lines 5-27); the receiving section being responsive to an occurrence of a predetermined event when the cartridge is removably inserted for transmitting to the further section public key information and an encrypted segment which has been formed through asymmetric encryption with a private key of a data segment which includes the unique identifier (see column 20, lines 16-32); and the further section decrypting the encrypted segment as a function of the public key information in order to obtain access to the unique identifier (see column 20, lines 16-32).

10.   Regarding claims 2 and 30, Sims III discloses the further section including a public key list containing a plurality of public keys, wherein the public key information identifies one of the public keys in the list, and the further section uses the public key to effect the decryption of the encrypted segment (see abstract; column 5, lines 29-35; column 10, lines 40-55).

11.   Regarding claims 3 and 31, Sims III discloses the private key, public key information, and unique identifier stored in the cartridge during manufacture thereof (see column 13, line 50 – column 14, line 34; column 4, lines 45-64; claims 1, 7). Sims III discloses the receiving section to read the private key, public key information, and unique identifier from the cartridge and

effect the asymmetric encryption of the unique identifier using the private key (see column 17, lines 30-43).

12.   Regarding claims 4 and 32, Sims III discloses the cartridge to include a secure memory device (see column 6, lines 28-44; column 7, lines 56-65), wherein the private key, public key information, and unique identifier are stored in the secure memory device (see column 11, lines 12-13; column 14, lines 63-64; column 4, line 45 – column 5, line 20), and wherein the receiving section authenticates with the secure memory device in order to obtain access to the information stored therein (see column 19, lines 8-14).

13.   Regarding claims 6 and 34, Sims III discloses a private key list of a plurality of private keys and public key identifiers maintained in a secure manner at a facility associated with cartridge manufacture, the private key and corresponding public key identifier used for asymmetric encryption (see column 4, lines 8-17).

14.   Regarding claims 7 and 35, Sims III discloses a public key list containing a plurality of public keys, wherein the public key information identifies one of the public keys in the list, and wherein the further section uses the one public key to effect decryption of the encrypted segment (see column 16, lines 41-56).

15.   Regarding claims 8 and 36, Sims III discloses the further section transmitting to the receiving section a request for the unique identifier, receipt of request being the predetermined event (see column 17, lines 30-43; figure 3B).

16.   Regarding claims 9 and 37, Sims III discloses placing in the request a security code, wherein the receiving section includes the security code in the data segment for comparison of the security code of the request to the security code received (see column 17, lines 16-29; figure 3B, items 317-319). Not that the random number disclosed by Sims III meets the limitation of the security code of the data segment.

17.   Regarding claims 14 and 42, Sims III discloses the encrypted segment and public key information stored in the cartridge during manufacture thereof (see column 10, line 61 – column 11, line 2; claim 1; figure 3C, item 330). Sims III discloses an embodiment in which the cartridge is free of the private key (see column 5, lines 21-28).

18.   Regarding claims 15 and 43, Sims III discloses a secure memory device (see column 6, lines 28-44; column 7, lines 56-65), wherein the public key information and the encrypted segment are stored in the secure memory device (see column 11, lines 12-28; column 14, lines 63-64), and wherein the receiving section authenticates with the secure memory device to obtain access to the information stored therein (see column 19, lines 8-14).

19.   Regarding claims 16 and 44, Sims III discloses a private key list of a plurality of private keys and public key identifiers maintained in a secure manner at a facility associated with cartridge manufacture, the private key and corresponding public key identifier used for asymmetric encryption (see column 4, lines 8-17).

20.   Regarding claims 17 and 45, Sims III discloses a public key list containing a plurality of public keys, wherein the public key information identifies one of the public keys in the list, and wherein the further section uses the one public key to effect decryption of the encrypted segment (see column 16, lines 41-56).

CLAIM REJECTIONS – 35 U.S.C. 103

21.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22.   Claims 5 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sims III,

as established above, in view of Asai et al., U.S. Patent Number 5,371,792.

23.   Sims III discloses embodiments in which the unique identifier is stored on the storage

media and the secure memory device, but does not disclose one embodiment in which the

unique identifier is stored on both, and wherein the receiving section compares the two unique

identifiers. Nevertheless, Asai et al., in a similar field of endeavor, disclose a security check for

a disk in which a unique identifier is stored on both storage media and secure memory device,

wherein the receiving section compares the unique identifier stored on the storage media to the

unique identifier stored in the secure memory device (see abstract; column 4, lines 6-14). Given

the teachings of Asai et al. it would have been obvious to one of ordinary skill in the art at the

time of the invention to have modified the apparatus of Sims III to compare the unique

identifiers stored in two places, the secure memory device and storage media, in order to

heighten security and assure that the cartridge is authorized and not tampered with.

24.   Claim 10-13 and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sims III, as established above, in view of Eberhard, U.S. Patent Number 5,473,689.

25.   Regarding claims 10, 12, 38, and 40, Sims III fails to disclose adding to the request a

second security code from an additional section for comparison. Nevertheless, once Sims III

discloses the method of comparison of a random number (security code) (see column 17, lines

16-29; figure 3B, items 317-319), adding a second comparison with another random number

would be an obvious modification to one of ordinary skill in the art. Illustrative of this is

Eberhard who discloses a method of authentication using comparison of at least two random

numbers in a data segment in an encrypted segment (see abstract; column 1, lines 34-65). In

light of Eberhard it would have been obvious to one of ordinary skill in the art at the time of the

invention to have used a second comparison of a second security code from an additional

section to add a second layer of security, the motivation disclosed by Eberhard (see column 2, lines 19-31).

26.   Regarding claims 11 and 39, Sims III discloses a public key list containing a plurality of public keys wherein the public key information identifies one of the public keys in the list (see column 16, lines 24-57).

27.   Sims III fails to disclose adding to the request a second security code from an additional section for comparison. Nevertheless, once Sims III discloses the method of comparison of a random number (security code) (see column 17, lines 16-29; figure 3B, items 317-319), adding a second comparison with another random number would be an obvious modification to one of ordinary skill in the art. Illustrative of this is Eberhard who discloses a method of authentication using comparison of at least two random numbers in a data segment in an encrypted segment (see abstract; column 1, lines 34-65). In light of Eberhard it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a second comparison of a second security code from an additional section to add a second layer of security, the motivation disclosed by Eberhard (see column 2, lines 19-31). It further would have been obvious that the further section and the additional section each use the one public key to effect the decryption of the encryption segment to be more efficient without sacrificing security because "only this device may actually decrypt the content of media" (Sims III, column 16, lines 53-56).

28.   Regarding claims 13 and 41, Sims III discloses the security code to be a substantially random number dynamically selected (see column 18, lines 13-29). The further security code is deemed obvious in view of Eberhard, as detailed above.

29.   Claims 18-28 and 46-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sims III., as established above, in view of Petrie Jr. et al., U.S. Patent Number 5,509,071.

30.   Regarding claims 18 and 46, Sims discloses a private key and public key information stored in the cartridge during manufacture thereof (see column 10, line 61 – column 11, line 28; claim 1);

a receiving section that reads the private key and public key information and unique identifier from the cartridge and forms a data segment which includes the encrypted segment, the public key information and unique identifier (see column 17, lines 30-43);

wherein in response to the predetermined event, the receiving section effects asymmetric encryption of the further data segment using the private key to obtain a further encrypted segment (see column 17, lines 30-43);

wherein the receiving section transmits the further encrypted segment and public key information to the further section, which decrypts the encrypted segment as a function of the public key information (see column 18, lines 13-29; figure 4, item 324).

31.   Sims III does not disclose the private key and public key information to be "further" private key and public key information. Nevertheless, using a further public/private key pair to effect a further encrypted segment from an encrypted segment was well known in the art at the time of the invention. Exemplary of this is Petrie Jr. et al. who disclose in a similar field of endeavor a system in which a data segment is "twice encrypted" utilizing public/private key pairs, i.e. a first data segment is encrypted to form an encrypted segment, and then the encrypted segment is encrypted to form a further encrypted segment (see abstract; column 3, lines 10-15 and 45-51; column 5, lines 1-20 and 38-47). In light of the teachings of Petrie Jr. it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the apparatus of Sims III to provide for a further set of private key, public key information, and encrypted segment utilizing the same encryption principles of the first set in order to provide for a further layer of security.

32.   Regarding claims 19 and 47, Sims III discloses comparing the unique identifier from the further data segment with the unique identifier obtained by decrypting the encrypted segment in the further data segment (see column 19, lines 8-32).

33.   Regarding claims 20 and 48, Sims III discloses the cartridge to include a secure memory device (see column 6, lines 28-44; column 7, lines 56-65), wherein the encrypted segment, public key information, further private key, and unique identifier are stored in the secure memory device (see column 11, lines 12-13; column 14, lines 63-64; column 4, line 45 – column 5, line 20), and wherein the receiving section authenticates with the secure memory device in order to obtain access to the information stored therein (see column 19, lines 8-14).

34.   Regarding claims 21-22 and 49-50, Sims III discloses a private key list of a plurality of private keys and public key identifiers maintained in a secure manner at a facility associated with cartridge manufacture, the private key and corresponding public key identifier used for asymmetric encryption (see column 4, lines 8-17). Sims III discloses a public key list containing a plurality of public keys, wherein the public key information identifies one of the public keys in the list, and wherein the further section uses the one public key to effect decryption of the encrypted segment (see column 16, lines 41-56).

35.   Sims III does not disclose the list of private key and public key information to be "further" or "first and second" private key and public key information. Nevertheless, using a further public/private key pair to effect a further encrypted segment from an encrypted segment was well known in the art at the time of the invention. Exemplary of this is Petrie Jr. et al. who disclose in a similar field of endeavor a system in which a data segment is "twice encrypted" utilizing public/private key pairs, i.e. a first data segment is encrypted to form an encrypted segment, and then the encrypted segment is encrypted to form a further encrypted segment (see abstract; column 3, lines 10-15 and 45-51; column 5, lines 1-20 and 38-47). In light of the teachings of Petrie Jr. it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the apparatus of Sims III to provide for a further set of private key, public key information, and encrypted segment utilizing the same encryption principles of the first set in order to provide for a further layer of security.

36.   Regarding claims 23 and 51, Sims III discloses the further section transmitting to the receiving section a request for the unique identifier, receipt of request being the predetermined event (see column 17, lines 30-43; figure 3B).

37.   Regarding claims 24 and 52, Sims III discloses placing in the request a security code, wherein the receiving section includes the security code in the further data segment for comparison of the security code of the request to the security code received (see column 17, lines 16-29; figure 3B, items 317-319). Note that the random number disclosed by Sims III meets the limitation of the security code of the data segment.

38.   Claim 25-28 and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sims III in view of Petrie Jr. et al, as established above, in view of Eberhard, U.S. Patent Number 5,473,689.

39.   Regarding claims 25, 27, 53, and 55, Sims III fails to disclose adding to the request a second security code from an additional section for comparison. Nevertheless, once Sims III discloses the method of comparison of a random number (security code) (see column 17, lines 16-29; figure 3B, items 317-319), adding a second comparison with another random number would be an obvious modification to one of ordinary skill in the art. Illustrative of this is Eberhard who discloses a method of authentication using comparison of at least two random numbers in a data segment in an encrypted segment (see abstract; column 1, lines 34-65). In light of Eberhard it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a second comparison of a second security code from an additional section to add a second layer of security, the motivation disclosed by Eberhard (see column 2, lines 19-31).

40.   Regarding claims 26 and 54, Sims III discloses a public key list containing a plurality of public keys wherein the public key information identifies one of the public keys in the list (see column 16, lines 24-57).

41.   Sims III fails to disclose adding to the request a second security code from an additional section for comparison. Nevertheless, once Sims III discloses the method of comparison of a random number (security code) (see column 17, lines 16-29; figure 3B, items 317-319), adding a second comparison with another random number would be an obvious modification to one of ordinary skill in the art. Illustrative of this is Eberhard who discloses a method of authentication using comparison of at least two random numbers in a data segment in an encrypted segment (see abstract; column 1, lines 34-65). In light of Eberhard it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a second comparison of a second security code from an additional section to add a second layer of security, the motivation disclosed by Eberhard (see column 2, lines 19-31). It further would have been obvious that the further section and the additional section each use the one public key to effect the decryption of the encryption segment to be more efficient without sacrificing security because "only this device may actually decrypt the content of media" (Sims III, column 16, lines 53-56).

42.   Regarding claims 28 and 56, Sims III discloses the security code to be a substantially random number dynamically selected (see column 18, lines 13-29). The further security code is deemed obvious in view of Eberhard, as detailed above.

CONCLUSION

43.   The following art cited and not relied upon is considered pertinent to the application:

        Rackman, U.S. Patent Application Number 4,670,857;

        Matyas et al., U.S. Patent Application Number 4,757,534;

        Ostrover et al., U.S. Patent Application Number 5,450,489;

        Jones et al., U.S. Patent Application Number 5,623,637;

        Kataoka et al., U.S. Patent Application Number 5,857,021;

        Cromer et al., U.S. Patent Application Number 6,330,624;

        Ansell et al., U.S. Patent Application Number 6,367,019;

        Imamura et al., U.S. Patent Application Number 6,453,369;

Yagawa et al., U.S. Patent Application Number 6,751,598.

44.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel M. Ungar whose telephone number is 571.272.7960. The examiner can normally be reached on 8:30 - 6:00 Monday - Thursday, Alt. Fridays.
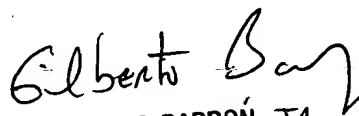
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571.272.3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2132

Daniel M. Ungar

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